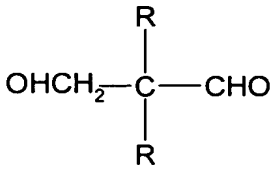
We claim:

1. A process for the catalytic hydrogenation of methylolalkanals of the formula



where R^1 and R^2 are each, independently of one another, a further methylol group or an alkyl group having from 1 to 22 carbon atoms or an aryl or aralkyl group having from 6 to 33 carbon atoms, in the liquid phase over a hydrogenation catalyst, wherein the pH of the hydrogenation feed is set to from 6.3 to 7.8 by addition of at least one tertiary amine.

2. A process as claimed in claim 1, wherein the hydrogenation feed contains less than 5% by weight of formaldehyde.

3. A process as claimed in claim 1 or 2, wherein a tri-n-alkylamine is used.

4. A process as claimed in any of claims 1 to 3, wherein trimethylamine, triethylamine, tri-n-propylamine and/or tri-n-butylamine is/are used.

5. A process as claimed in any of claims 1 to 4, wherein the hydrogenation catalyst comprises at least one metal of transition groups 8 to 12 of the Periodic Table of the Elements.

6. A process as claimed in any of claims 1 to 5, wherein the hydrogenation catalyst is a supported catalyst.

7. A process as claimed in claim 6, wherein the oxides of titanium, zirconium, hafnium, silicon and/or aluminum are used as support material.

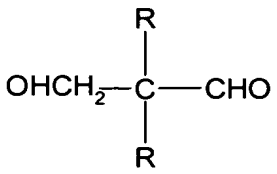
8. A process as claimed in any of claims 5 to 7, wherein the hydrogenation catalyst comprises copper on an Al_2O_3- or TiO_2-containing support material in the presence or absence of one or more of the elements magnesium, barium, zinc and chromium.

9. A process as claimed in any of claims 1 to 8, wherein the methylolalkanal which is hydrogenated is hydroxypivalaldehyde, pentaerythrose or dimethylolbutanal.

Hydrogenation of methylolalkanals

Abstract

Process for the catalytic hydrogenation of methylolalkanals of the formula



where R^1 and R^2 are each, independently of one another, a further methylol group or an alkyl group having from 1 to 22 carbon atoms or an aryl or aralkyl group having from 6 to 33 carbon atoms, in the liquid phase over a hydrogenation catalyst, wherein the pH of the hydrogenation feed is set to from 6.3 to 7.8 by addition of at least one tertiary amine.